## Abstract of the Disclosure

A substrate, a cathode electrode formed on the substrate, a gate insulating layer which is formed on the cathode electrode and has a through hole corresponding to part of the cathode electrode, a gate electrode which has a gate hole corresponding to the through hole and is formed on the gate insulating layer, and an emitter formed on the gate electrode exposed to the bottom of the through hole. The emitter has a stack structure formed of a resistive material layer and an electron emission material layer containing a fine electron emission source formed on the resistive material layer.